ALTO-SHAAM®

Holding Cabinets

Electric

COMBI WARMER MATE®

ecosmart®

20•20MW

Models:

12•20W
12•20MW
20•20W
20•20MW

- **INSTALLATION**
- **OPERATION**
- **MAINTENANCE**

20•20W

12•20MW

24•7 Your Service Hotline 1-800-558-8744

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PRINTED IN U.S.A.

MN-28599 • 06/12

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Wire Diagrams
Always refer to the wire digram(s) included with the unit for most current version.

Warranty
Transportation Damage and Claims . . . . . Back Cover
Limited Warranty . . . . . Back Cover

DELIVERY

This Alto-Shaam appliance has been thoroughly tested and inspected to ensure only the highest quality unit is provided. Upon receipt, check for any possible shipping damage and report it at once to the delivering carrier. ***See Transportation Damage and Claims section located in this manual.***

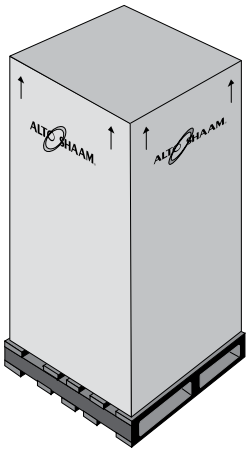
This appliance, complete with unattached items and accessories, may have been delivered in one or more packages. Check to ensure that all standard items and options have been received with each model as ordered.

Save all the information and instructions packed with the appliance. Complete and return the warranty card to the factory as soon as possible to ensure prompt service in the event of a warranty parts and labor claim.

This manual must be read and understood by all people using or installing the equipment model. Contact the Alto-Shaam Tech Team Service Department if you have any questions concerning installation, operation, or maintenance.

NOTE: All claims for warranty must include the full model number and serial number of the unit.

UNPACKING



1. Carefully remove the appliance from the carton or crate.

   NOTE: Do not discard the carton and other packaging material until you have inspected the unit for hidden damage and tested it for proper operation.

2. Read all instructions in this manual carefully before initiating the installation of this appliance.

   DO NOT DISCARD THIS MANUAL.
   This manual is considered to be part of the appliance and is to be provided to the owner or manager of the business or to the person responsible for training operators. ***Additional manuals are available from the Alto-Shaam Tech Team Service Department.***

3. Remove all protective plastic film, packaging materials, and accessories from the appliance before connecting electrical power. Store any accessories in a convenient place for future use.

SAFETY PROCEDURES AND PRECAUTIONS

Knowledge of proper procedures is essential to the safe operation of electrically and/or gas energized equipment. In accordance with generally accepted product safety labeling guidelines for potential hazards, the following signal words and symbols may be used throughout this manual.

DANGER

Used to indicate the presence of a hazard that WILL cause severe personal injury, death, or substantial property damage if the warning included with this symbol is ignored.

WARNING

Used to indicate the presence of a hazard that CAN cause personal injury, possible death, or major property damage if the warning included with this symbol is ignored.

CAUTION

Used to indicate the presence of a hazard that can or will cause minor or moderate personal injury or property damage if the warning included with this symbol is ignored.

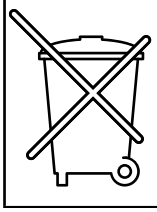
CAUTION

Used to indicate the presence of a hazard that can or will cause minor personal injury, property damage, or a potential unsafe practice if the warning included with this symbol is ignored.

NOTE: Used to notify personnel of installation, operation, or maintenance information that is important but not hazard related.

1. This appliance is intended to cook, hold or process foods for the purpose of human consumption. No other use for this appliance is authorized or recommended.
2. This appliance is intended for use in commercial establishments where all operators are familiar with the purpose, limitations, and associated hazards of this appliance. Operating instructions and warnings must be read and understood by all operators and users.
3. Any troubleshooting guides, component views, and parts lists included in this manual are for general reference only and are intended for use by qualified technical personnel.
4. This manual should be considered a permanent part of this appliance. This manual and all supplied instructions, diagrams, schematics, parts lists, notices, and labels must remain with the appliance if the item is sold or moved to another location.

NOTE



For equipment delivered for use in any location regulated by the following directive:

DO NOT DISPOSE OF ELECTRICAL OR ELECTRONIC EQUIPMENT WITH OTHER MUNICIPAL WASTE.

INSTALLATION

SITE INSTALLATION

1. This appliance, complete with unattached items and accessories, may be delivered in one or more packages. Check to insure that all items ordered have been received.

2. This appliance is designed for the purpose of maintaining hot food at a temperature for safe consumption. The unit must be installed on a level surface in a location that will permit the equipment to function for its intended purpose and allow adequate access for proper cleaning and maintenance.

3. The appliance must not be installed in any area where it will be affected by steam, grease, dripping water, high temperatures, or any other severely adverse conditions.

4. Level the appliance from side-to-side and front-to-back with the use of a spirit level.

5. In order to maintain standards established by the National Sanitation Foundation, floor models must be sealed at bottom by NSF approved sealant, or equipped with casters, or 6" (152mm) legs to provide minimum unobstructed space beneath the unit. Warranty will become null and void if these directions are not followed.

DANGER

IMPROPER INSTALLATION, ALTERATION, ADJUSTMENT, SERVICE, OR MAINTENANCE COULD RESULT IN SEVERE INJURY, DEATH, OR CAUSE PROPERTY DAMAGE.

READ THE INSTALLATION, OPERATING AND MAINTENANCE INSTRUCTIONS THOROUGHLY BEFORE INSTALLING OR SERVICING THIS EQUIPMENT.

CAUTION

TO PREVENT PERSONAL INJURY, USE CAUTION WHEN MOVING OR LEVELING THIS APPLIANCE.

CLEARANCE REQUIREMENTS	
BACK	3" (76mm)
TOP	2" (51mm)
EACH SIDE	1" (25mm)

WEIGHT		
	12•20W, MW	**20•20W, MW**
NET	275 lbs (125 kg) EST.	378 lbs (171 kg)
SHIP	410 lbs (186 kg)	513 lbs (233 kg)

INSTALLATION

ELECTRICAL CONNECTION

1. An identification tag is permanently mounted on the cabinet.

2. Plug the unit into a properly grounded receptacle ONLY. Arcing will occur when connecting or disconnecting the unit unless all controls are in the "OFF" position.

3. Position the unit so the cord is easily accessible in case of any emergencies. If necessary, a proper receptacle or outlet configuration, as required for the unit, must be installed by a licensed electrician in accordance with applicable, local electrical codes.

For CE approved units: To prevent an electrical shock hazard between the appliance and other appliances or metal parts in close vicinity, an equalization-bonding stud is provided. An equalization bonding lead must be connected to this stud and the other appliances / metal parts to provide sufficient protection against potential difference. The terminal is marked with the following symbol. ⏚

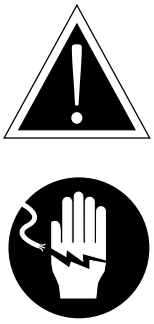
NOTE: CE approved appliances must be connected to an electrical circuit that is protected by an external GFCI outlet.

Hard wired models:

Hard wired models must be equipped with a country certified external allpole disconnection switch with sufficient contact separation.

If a power cord is used for the connection of the product an oil resistant cord like H05RN or H07RN or equivalent must be used.

DANGER



To avoid electrical shock, this appliance MUST be adequately grounded in accordance with local electrical codes or, in the absence of local codes, with the current edition of the National Electrical Code ANSI/ NFPA No. 70. In Canada, all electrical connections are to be made in accordance with CSA C22.1, Canadian Electrical Code Part 1 or local codes.

⚠ DANGER

ELECTRICAL CONNECTIONS MUST BE MADE BY A QUALIFIED SERVICE TECHNICIAN IN ACCORDANCE WITH APPLICABLE ELECTRICAL CODES.

ELECTRICAL – Model 12•20 COMBIMATE

VOLTAGE	PHASE	CYCLE/HZ	AMPS	kW	CORD & PLUG
208-240 (AGCY)	1	50/60	16.0	3.8	NEMA 6-20P 20A-250V Plug
208	1	50/60	13.9	2.9	
240	1	50/60	16.0	3.8	
230	1	50/60	15.3	3.5	NO CORD OR PLUG

ELECTRICAL – Model 20•20 COMBIMATE

VOLTAGE	PHASE	CYCLE/HZ	AMPS	kW	CORD & PLUG
208-240 (AGCY)	1	50/60	16.0	3.8	NEMA 6-20P 20A-250V Plug
208	1	50/60	13.9	2.9	
240	1	50/60	16.0	3.8	
230	1	50/60	15.3	3.5	NO CORD OR PLUG

Wire diagrams are located under the top cover of the unit.

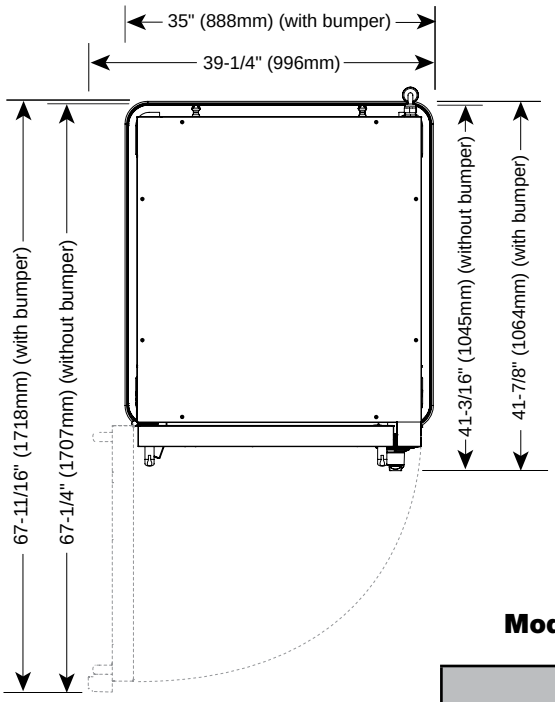
⚠ DANGER

ENSURE POWER SOURCE MATCHES VOLTAGE IDENTIFIED ON APPLIANCE RATING TAG.

INSTALLATION

CAUTION

Do not operate this holding cabinet without its appropriate Roll-in Cart or Preheat Sealing Strip.



COMBI MATE WARMER

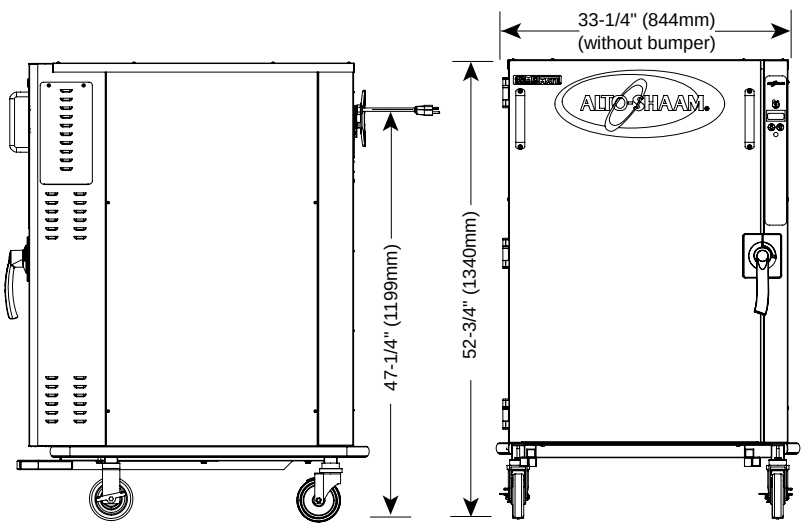
12•20W, MW

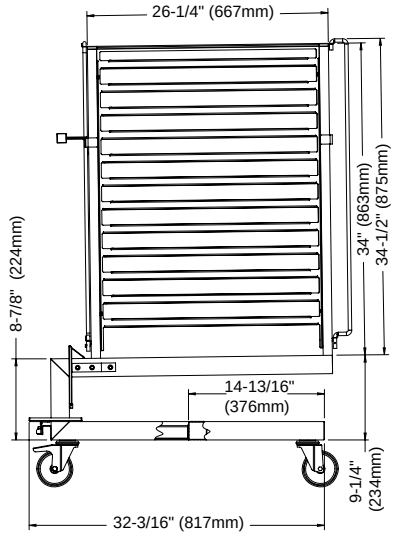
Max. Load Capacity 288 lbs. (132 kg)

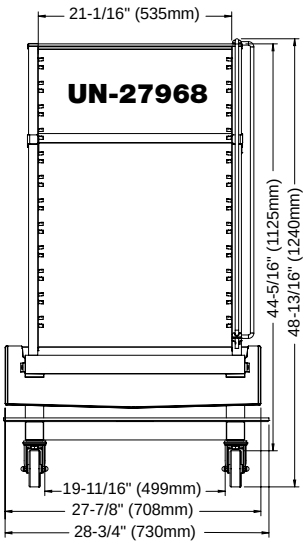
Volume Max. 180 Quarts (228 liters)

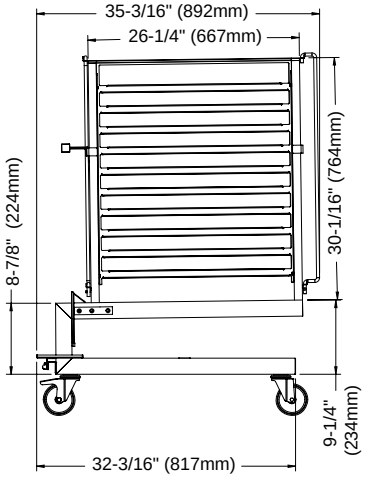
Options & Accessories
Model 12•20 Combimate™ Warmers

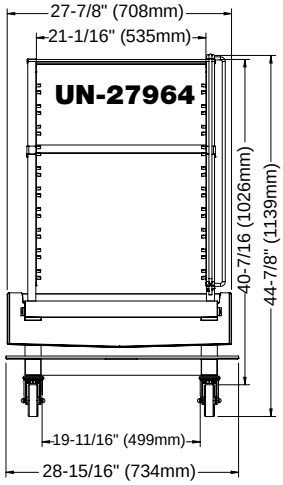
DESCRIPTION	PART NO.
Preheat Sealing Strip	5007925
Model 12•20 Roll-in Pan Cart, electric oven	UN-27968
Model 10•20esG Roll-in Pan Cart, gas oven	UN-27964
Model 12•20 Roll-in Plate Cart, electric (2-3/4" between plates)	UN-27969
Model 12•20 Roll-in Plate Cart, electric (3-3/4" between plates)	UN-28456
Model 10•20esG Roll-in Plate Cart, gas Compatible with Combitherm Model 12•20 Oven and QC-50 Quickchiller	UN-27965
Stainless Steel Wire Shelves (to accommodate full-size sheet pans)	SH-22473











INSTALLATION

CAUTION

Do not operate this holding cabinet without its appropriate Roll-in Cart or Preheat Sealing Strip.

Options & Accessories
Model 20•20 Combimate™ Warmers

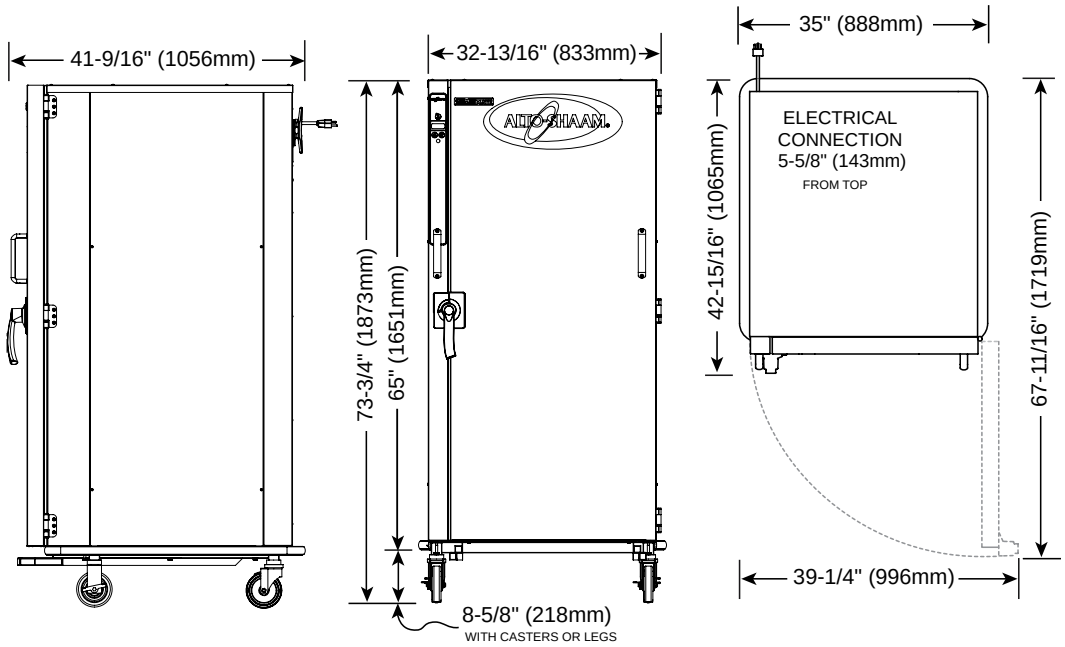
DESCRIPTION	PART NO.
Preheat Sealing Strip	5007925
Model 20•20 Roll-in Pan Cart	UN-27970
Model 20•20 Roll-in Plate Cart 2-11/16" (69mm) spacing 3-1/2" (89mm) spacing COMPATIBLE WITH COMBITHERM MODEL 20•20 OVEN AND QC-100 QUICKCHILLER	 UN-27971 UN-28311
Stainless Steel Wire Shelves (to accommodate full-size sheet pans)	SH-22473

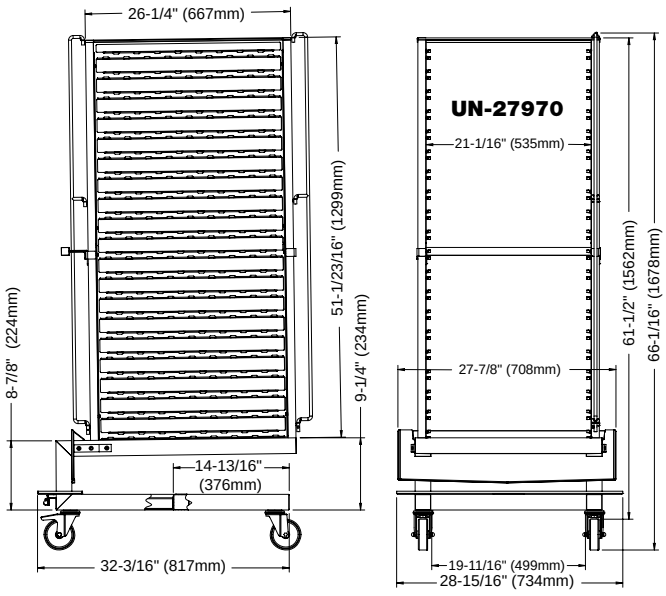
COMBI MATE WARMER

20•20W, MW

Max. Load Capacity 480 lbs. (218 kg)

Volume Max. 300 Quarts (284 liters)





OPERATING INSTRUCTIONS

USER SAFETY INFORMATION

This appliance is intended for use in commercial establishments where all operators are familiar with the purpose, limitations, and associated hazards of this appliance. Operating instructions and warnings must be read and understood by all operators and users.

1. **Make sure the unit is connected to the appropriate power source.**
2. **Use hand protection when handling hot items.**
3. **Preheat the unit for 30 minutes before use.**
4. **Be certain only hot foods are placed into the cabinet.**
5. **Do <u>not</u> operate the holding cabinet <u>without</u> the Roll-in Cart on Models 12•20 and 20•20.**

PRODUCT\PAN CAPACITY - Model 12•20 COMBIMATE
288 lbs (132 kg) MAXIMUM
VOLUME MAXIMUM: 180 QUARTS (228 LITERS)
FULL-SIZE PANS:
Twenty-four (24) 20" x 12" x 2-1/2" MAXIMUM
GN 1/1: Twenty-four (24) (530mm x 325mm x 65mm)
GN 2/1: Twelve (12) (650mm x 530mm x 65mm)
FULL-SIZE SHEET PANS:
Six (6) 18" x 26" x 1" (12 with added shelves)

PRODUCT\PAN CAPACITY - Model 20•20 COMBIMATE
480 lbs (218 kg) MAXIMUM
VOLUME MAXIMUM: 300 QUARTS (284 LITERS)
FULL-SIZE PANS:
Forty (40) 20" x 12" x 2-1/2" MAXIMUM
GN 1/1: Forty (40) (530mm x 325mm x 65mm)
GN 2/1: Twenty (20) (650mm x 530mm x 65mm)
FULL-SIZE SHEET PANS:
Ten (10) 18" x 26" x 1" (20 with added Shelves)

HEATING CHARACTERISTICS

The cabinet is equipped with a special, low-heat-density heating cable. Through the Halo Heat concept, the heating cable is mounted against the walls of the warming compartment to provide an evenly applied heat source controlled by a thermostat. The design and operational characteristics of the cabinet eliminate the need for a moisture pan or a heat circulating fan. Through even heat application, the quality of a food product is maintained up to as much as several hours.

The primary purpose of the Model 12•20 and 20•20 Holding Cabinet is to operate as a functional extension of the Combitherm Combination Oven/Steamer. The combination oven is for high volume production – the Halo Heat companion holding cabinet preserves the quality and extends the longest possible holding life. The Roll-In Cart for the 12•20 and 20•20 are completely interchangeable between the Combitherm Oven and the Halo Heat Companion Holding Cabinet, along with compatible Alto-Shaam Quickchillers.

The Combitherm Combination Oven/Steamer, along with the Halo Heat companion holding cabinet and Alto-Shaam Quickchiller give the food service operator the advantage of advance full-load preparation, better work-load scheduling, and the ability to hold the product for prolonged periods without major deterioration.

BEFORE INITIAL USE:

Before operating the unit, clean both the interior and exterior with a clean, damp cloth and mild soap solution. Rinse carefully with a sponge and clean water. Clean and install the Roll-in Cart on Models 12•20 and 20•20.

OPERATING INSTRUCTIONS

CONTROL SET-UP

ON/OFF KEY

Press the on/off key once and the power indicator light will illuminate. Press and hold the on/off key until the LED display turns off (at least three seconds) and power indicator light goes out.

UP/DOWN ARROW KEY

The up and down arrow keys are used for a variety of settings when selecting the holding temperature. If an arrow key is pressed and released the display will show the current set temperature for two seconds. If an arrow key is held (at least eight seconds), the value will change at a rapid rate. If the arrow key is pressed and released in rapid succession, the set temperature will change by increments of one degree.

ENABLE/DISABLE BEEPER

A beeper sounds when an error code is displayed. To choose between beeper on and beeper off mode, the control must be off, then press and hold the down arrow key until either "on" or "off" is shown in the LED display. Release arrow key when desired mode is displayed.

FAHRENHEIT/CELSIUS

°F/°C

With the control off, to choose between Fahrenheit and Celsius, press and hold the up arrow key until either °F or °C is shown in LED display. Release key when desired setting is displayed.

The control has a four-digit LED display. When the display is on, it will show current holding temperature, as well as diagnostic information.

CONTROL LOCK

The warmer controls can be locked so that no changes can be made to the set temperature.

To lock the display, press and hold the ON/OFF key and the Up Arrow key at the same time. The lock LED will illuminate. When the lock LED is illuminated, additional programming will not be functional other than the key sequence required to unlock the panel.

To unlock the display, press and hold the ON/OFF key and the Down Arrow key at the same time. The lock LED will extinguish. The panel keys will resume normal function.

CONTROL OPERATION

1. PREHEAT AT 200°F (93°C) FOR 30 MINUTES.

Press the ON key, and set the temperature to 200°F (93°) by using the UP/DOWN arrow keys.

Allow a minimum of 30 minutes preheating time before loading the holding cabinet with food. Closing the vents on the inside of the door will speed the preheating process. The LED heat indicator light will go "Out" after approximately 30 minutes preheat time, or when the air temperature inside the unit reaches the temperature set by the operator. The Set indicator will light up anytime the temperature is set or reset.

2. LOAD WITH HOT FOOD ONLY.

The purpose of the holding cabinet is to maintain hot food at proper serving temperature. Only hot food should be placed into the cabinet. Before loading the cabinet with food, use a food thermometer to make certain all products are at an internal temperature range of 140° to 160°F (60° to 71°C). Any food product not within the proper temperature range should be heated before loading into the holding cabinet.

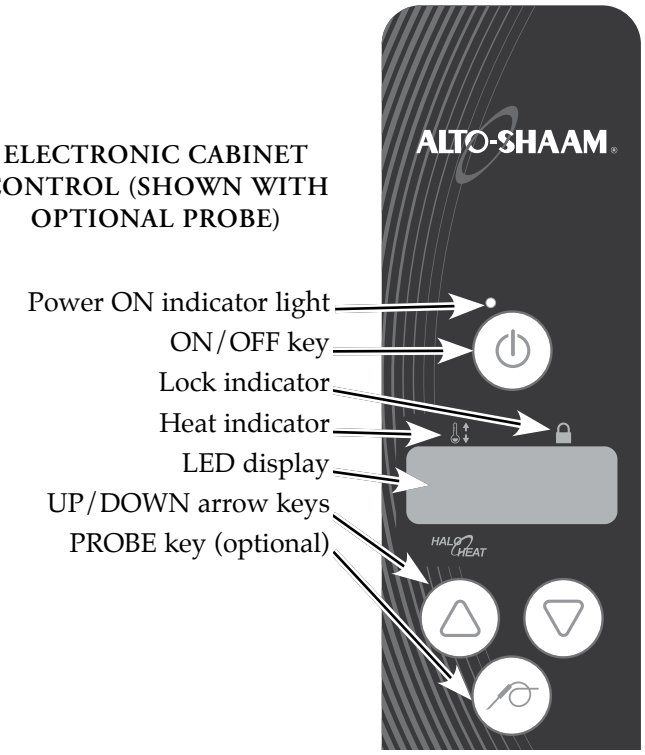
3. RESET THE CONTROL TO 160°F (71°C).

Check to make certain the cabinet door is securely closed, and reset to 160°F (71°C) by using the UP/DOWN keys

THIS WILL NOT NECESSARILY BE THE FINAL SETTING.

The proper temperature range and open or closed door vent position will depend on the type and quantity of product. When holding food for prolonged periods, it is advisable to periodically check the internal temperature of each item with a food thermometer to assure maintenance of the proper temperature range of 140° to 160°F (60° to 71°C).

ELECTRONIC CABINET CONTROL (SHOWN WITH OPTIONAL PROBE)



General Holding Guideline

Chefs, cooks and other specialized food service personnel employ varied methods of cooking. Proper holding temperatures for a specific food product must be based on the moisture content of the product, product density, volume, and proper serving temperatures. Safe holding temperatures must also be correlated with palatability in determining the length of holding time for a specific product.

Halo Heat maintains the maximum amount of product moisture content without the addition of water, water vapor, or steam. Maintaining maximum natural product moisture preserves the natural flavor of the product and provides a more genuine taste. In addition to product moisture retention, the gentle properties of Halo Heat maintain a consistent temperature throughout the cabinet without the necessity of a heat distribution fan, thereby preventing further moisture loss due to evaporation or dehydration.

When product is removed from a high temperature cooking environment for immediate transfer into equipment with the lower temperature required for hot food holding, condensation can form on the outside of the product and on the inside of plastic containers used in self-service applications. Allowing the product to release the initial steam and heat produced by high temperature cooking can alleviate this condition. To preserve the safety and quality of freshly cooked foods however, a maximum of 1 to 2 minutes must be the only time period allowed for the initial heat to be released from the product.

This unit is equipped with a thermostat control between 60° and 205°F (16° and 96°C). If the unit is equipped with vents, close the vents for moist holding and open the vents for crisp holding. Use a metal-stemmed thermometer to measure the internal temperature of the product being held. Adjust the thermostat setting to achieve the best overall setting based on internal product temperature.

HOLDING TEMPERATURE RANGE		
MEAT	**FAHRENHEIT**	**CELSIUS**
BEEF ROAST — Rare	130°F	54°C
BEEF ROAST — Med/Well Done	155°F	68°C
BEEF BRISKET	160° — 175°F	71° — 79°C
CORN BEEF	160° — 175°F	71° — 79°C
PASTRAMI	160° — 175°F	71° — 79°C
PRIME RIB — Rare	130°F	54°C
STEAKS — Broiled/Fried	140° — 160°F	60° — 71°C
RIBS — Beef or Pork	160°F	71°C
VEAL	160° — 175°F	71° — 79°C
HAM	160° — 175°F	71° — 79°C
PORK	160° — 175°F	71° — 79°C
LAMB	160° — 175°F	71° — 79°C
POULTRY		
CHICKEN — Fried/Baked	160° — 175°F	71° — 79°C
DUCK	160° — 175°F	71° — 79°C
TURKEY	160° — 175°F	71° — 79°C
GENERAL	160° — 175°F	71° — 79°C
FISH/SEAFOOD		
FISH — Baked/Fried	160° — 175°F	71° — 79°C
LOBSTER	160° — 175°F	71° — 79°C
SHRIMP — Fried	160° — 175°F	71° — 79°C
BAKED GOODS		
BREADS/ROLLS	120° — 140°F	49° — 60°C
MISCELLANEOUS		
CASSEROLES	160° — 175°F	71° — 79°C
DOUGH — Proofing	80° — 100°F	27° — 38°C
EGGS —Fried	150° — 160°F	66° — 71°C
FROZEN ENTREES	160° — 175°F	71° — 79°C
HORS D'OEUVRES	160° — 180°F	71° — 82°C
PASTA	160° — 180°F	71° — 82°C
PIZZA	160° — 180°F	71° — 82°C
POTATOES	180°F	82°C
PLATED MEALS	140° — 165°F	60°— 74°C
SAUCES	140° — 200°F	60° — 93°C
SOUP	140° — 200°F	60° — 93°C
VEGETABLES	160° — 175°F	71° — 79°C

THE HOLDING TEMPERATURES LISTED ARE SUGGESTED GUIDELINES ONLY. ALL FOOD HOLDING SHOULD BE BASED ON INTERNAL PRODUCT TEMPERATURES. ALWAYS FOLLOW LOCAL HEALTH (HYGIENE) REGULATIONS FOR ALL INTERNAL TEMPERATURE REQUIREMENTS.

PROTECTING STAINLESS STEEL SURFACES

It is important to guard against corrosion in the care of stainless steel surfaces. Harsh, corrosive, or inappropriate chemicals can completely destroy the protective surface layer of stainless steel. Abrasive pads, steel wool, or metal implements will abrade surfaces causing damage to this protective coating and will eventually result in areas of corrosion. Even water, particularly hard water that contains high to moderate concentrations of chloride, will cause oxidation and pitting that result in rust and corrosion. In addition, many acidic foods spilled and left to remain on metal surfaces are contributing factors that will corrode surfaces.

Proper cleaning agents, materials, and methods are vital to maintaining the appearance and life of this appliance. Spilled foods should be removed and the area wiped as soon as possible but at the very least, a minimum of once a day. Always thoroughly rinse surfaces after using a cleaning agent and wipe standing water as quickly as possible after rinsing.

CLEANING AGENTS

Use non-abrasive cleaning products designed for use on stainless steel surfaces. Cleaning agents must be chloride-free compounds and must not contain quaternary salts. Never use hydrochloric acid (muriatic acid) on stainless steel surfaces. Always use the proper cleaning agent at the manufacturer's recommended strength. Contact your local cleaning supplier for product recommendations.

CLEANING MATERIALS

The cleaning function can usually be accomplished with the proper cleaning agent and a soft, clean cloth. When more aggressive methods must be employed, use a non-abrasive scouring pad on difficult areas and make certain to scrub with the visible grain of surface metal to avoid surface scratches. Never use wire brushes, metal scouring pads, or scrapers to remove food residue.

⚠CAUTION

TO PROTECT STAINLESS STEEL SURFACES, COMPLETELY AVOID THE USE OF ABRASIVE CLEANING COMPOUNDS, CHLORIDE BASED CLEANERS, OR CLEANERS CONTAINING QUATERNARY SALTS. NEVER USE HYDROCHLORIC ACID (MURIATIC ACID) ON STAINLESS STEEL. NEVER USE WIRE BRUSHES, METAL SCOURING PADS OR SCRAPERS.

CARE AND CLEANING

The cleanliness and appearance of this unit will contribute considerably to operating efficiency and savory, appetizing food. Good equipment that is kept clean works better and lasts longer.

CLEAN THE UNIT THOROUGHLY AFTER EACH USE

1. Disconnect appliance from power source, and let cool.
2. Remove, cover or wrap, and store unused products under refrigeration.
3. Remove all detachable items such as plate carriers, wire shelves, side racks, and any drip pans. Clean these items separately.
4. Clean interior with a damp cloth or sponge and any good commercial detergent at the recommended strength.
5. Spray heavily soiled areas with a water soluble degreaser and let stand for 10 minutes, then remove soil with a plastic scouring pad.

NOTE: Avoid the use of abrasive cleaning compounds, chloride based cleaners, or cleaners containing quaternary salts. *Never* use hydrochloric acid (muriatic acid) on stainless steel.

DANGER

AT NO TIME SHOULD THE INTERIOR OR EXTERIOR BE STEAM CLEANED, HOSED DOWN, OR FLOODED WITH WATER OR LIQUID SOLUTION OF ANY KIND. DO NOT USE WATER JET TO CLEAN.

SEVERE DAMAGE OR ELECTRICAL HAZARD COULD RESULT.

WARRANTY BECOMES VOID IF APPLIANCE IS FLOODED

DANGER

DISCONNECT UNIT FROM POWER SOURCE BEFORE CLEANING OR SERVICING.

6. Clean control panel, door vents, door handles, and door gaskets thoroughly since these areas harbor food debris.
7. Rinse surfaces by wiping with sponge and clean warm water.
8. Remove excess water with sponge and wipe dry with a clean cloth or air dry. Leave door open until interior is completely dry. Replace shelves.
9. Interior can be wiped with a sanitizing solution after cleaning and rinsing. This solution must be approved for use on stainless steel food contact surfaces.
10. To help maintain the protective film coating on polished stainless steel, clean the exterior of the cabinet with a cleaner recommended for stainless steel surfaces. Spray the cleaning agent on a clean cloth and wipe with the grain of the stainless steel.
11. Clean glass with a window cleaner.
12. Cart Cleaning —
    Remove cart to a wash area and use any mild cleaning detergent and warm water. Handwipe all framing, slides, drip pan, and base. Thoroughly clean debris from the casters. A spray hose can be used for cart cleaning. Rinse detergent solution off with warm water. Wipe or spray with a sanitizing solution designed for use on metal and vinyl food contact surfaces. Allow cart to air dry.

Always follow appropriate state or local health (hygiene) regulations regarding all applicable cleaning and sanitation requirements for foodservice equipment.

SANITATION

Food flavor and aroma are usually so closely related that it is difficult, if not impossible, to separate them. There is also an important, inseparable relationship between cleanliness and food flavor. Cleanliness, top operating efficiency, and appearance of equipment contribute considerably to savory, appetizing foods. Good equipment that is kept clean, works better and lasts longer.

Most food imparts its own particular aroma and many foods also absorb existing odors. Unfortunately, during this absorption there is not distinction between GOOD and BAD odors The majority of objectionable flavors and odors troubling food service operations are caused by bacteria growth. Sourness, rancidity, mustiness, stale or other OFF flavors are usually the result of germ activity.

The easiest way to insure full, natural food flavor is through comprehensive cleanliness. This means good control of both visible soil (dirt) and invisible soil (germs). A through approach to sanitation will provide essential cleanliness. It will assure an attractive appearance of equipment, along with maximum efficiency and utility. More importantly, a good sanitation program provides one of the key elements in the prevention of food-borne illnesses.

A controlled holding environment for prepared foods is just one of the important factors involved in the prevention of food-borne illnesses. Temperature monitoring and control during receiving, storage, preparation, and the service of foods are of equal importance.

The most accurate method of measuring safe temperatures of both hot and cold foods is by internal product temperature. A quality thermometer is an effective tool for this purpose, and should be routinely used on all products that require holding at a specific temperature.

A comprehensive sanitation program should focus on the training of staff in basic sanitation procedures. This includes personal hygiene, proper handling of raw foods, cooking to a safe internal product temperature, nd the routine monitoring of internal temperatures from receiving through service.

Most food-borne illnesses can be prevented through proper temperature control and a comprehensive program of sanitation. Both these factors are important to build quality service as the foundation of customer satisfaction. Safe food handling practices to prevent food-borne illness is of critical importance to the health and safety of your customers.

HACCP, an acronym for Hazard Analysis (at) Critical Control Points, is a quality control program of operating procedures to assure food integrity, quality, and safety. Taking steps necessary to augment food safety practices is both cost effective and relatively simple. While HACCP guidelines go far beyond the scope of this manual, additional information is available by contacting:

CENTER FOR FOOD SAFETY AND APPLIED NUTRITION FOOD AND DRUG ADMINISTRATION 1-888-SAFEFOOD

INTERNAL FOOD PRODUCT TEMPERATURES		
HOT FOODS		
DANGER ZONE	40° TO 140°F	(4° TO 60°C)
CRITICAL ZONE	70° TO 120°F	(21° TO 49°C)
SAFE ZONE	140° TO 165°F	(60° TO 74°C)
COLD FOODS		
DANGER ZONE	ABOVE 40°F	(ABOVE 4°C)
SAFE ZONE	36° TO 40°F	(2° TO 4°C)
FROZEN FOODS		
DANGER ZONE	ABOVE 32°F	(ABOVE 0°C)
CRITICAL ZONE	0° TO 32°F	(-18° TO 0°C)
SAFE ZONE	0°F or below	(-18°C or below)

SERVICE

ELECTRONIC CONTROL ACCURACY

The electronic control is a precise instrument and is designed to offer trouble-free service. If you suspect the temperature inside the warming cabinet does not match the temperature indicated on the digital display, after stabilizing, follow the instructions listed below.

1. Check to make certain the unit voltage matches the power source. A power source less than that required to operate the unit will result in inaccurate temperatures.
2. Verify the temperature inside the holding compartment with a quality thermal indicator.
   A. With the exception of the wire shelves, completely empty the holding compartment.
   B. Make certain the holding cabinet sensor, located inside the holding compartment at the left side of the unit, is completely clean.
   C. Suspend the thermal indicator in the center of the holding compartment.
   D. Allow the temperature set on the electronic thermostat to stabilize for a minimum of one hour before comparing the digital display with the reading on the thermal indicator.

   DO NOT OPEN THE CABINET DOOR(S) DURING THE TEMPERATURE STABILIZATION PERIOD.

If the reading on the thermal indicator does not match the digital display, there may be a problem with the air sensor. See troubleshooting guide in this manual, or call the factory service department for advice.

SPECIAL FEATURES

HEAT RECOVERY

The patented SureTemp™ heat recovery system in this unit will immediately compensate for any loss of heat when the door is opened. in order to maintain a more consistent cavity temperature, the control will automatically apply heat to the unit's interior while the door is open and for a short time after the door is closed. If the door remains open for more than three minutes, the solid state electronic control will sound three rapid beeps every ten seconds until the door is closed.

⚠ DANGER

DISCONNECT UNIT FROM POWER SOURCE BEFORE CLEANING OR SERVICING.

CAUTION

THIS SECTION IS PROVIDED FOR THE ASSISTANCE OF QUALIFIED SERVICE TECHNICIANS ONLY AND IS NOT INTENDED FOR USE BY UNTRAINED OR UNAUTHORIZED SERVICE PERSONNEL.

TROUBLESHOOTING

This section is provided for the assistance of qualified technicians only and is not intended for use by untrained or unauthorized service personnel. If your Alto-Shaam® unit is not operating properly, check the following before calling your Authorized Alto-Shaam® Service Agent:

☛ Check main power circuit breaker to the unit and circuit breaker on the back of the unit is turned on, if applicable. ***Do not attempt to repair or service the holding cabinet beyond this point.*** **Contact Alto-Shaam® for the nearest authorized service agent. Repairs made by any other service agents without prior authorization by Alto-Shaam® will void the warranty on the unit.**

NOTE

If the appliance has been unplugged for an extended period of time, the Real Time Clock may require recharging. Turn main breaker to the unit off for 10 seconds and then restore power. For more information, see Error Code E-60 in the Troubleshooting section of this manual.

⚠ DANGER

LOCK-OUT OR POST BREAKER PANEL UNTIL SERVICE WORK HAS BEEN COMPLETED.

SERVICE

TROUBLESHOOTING

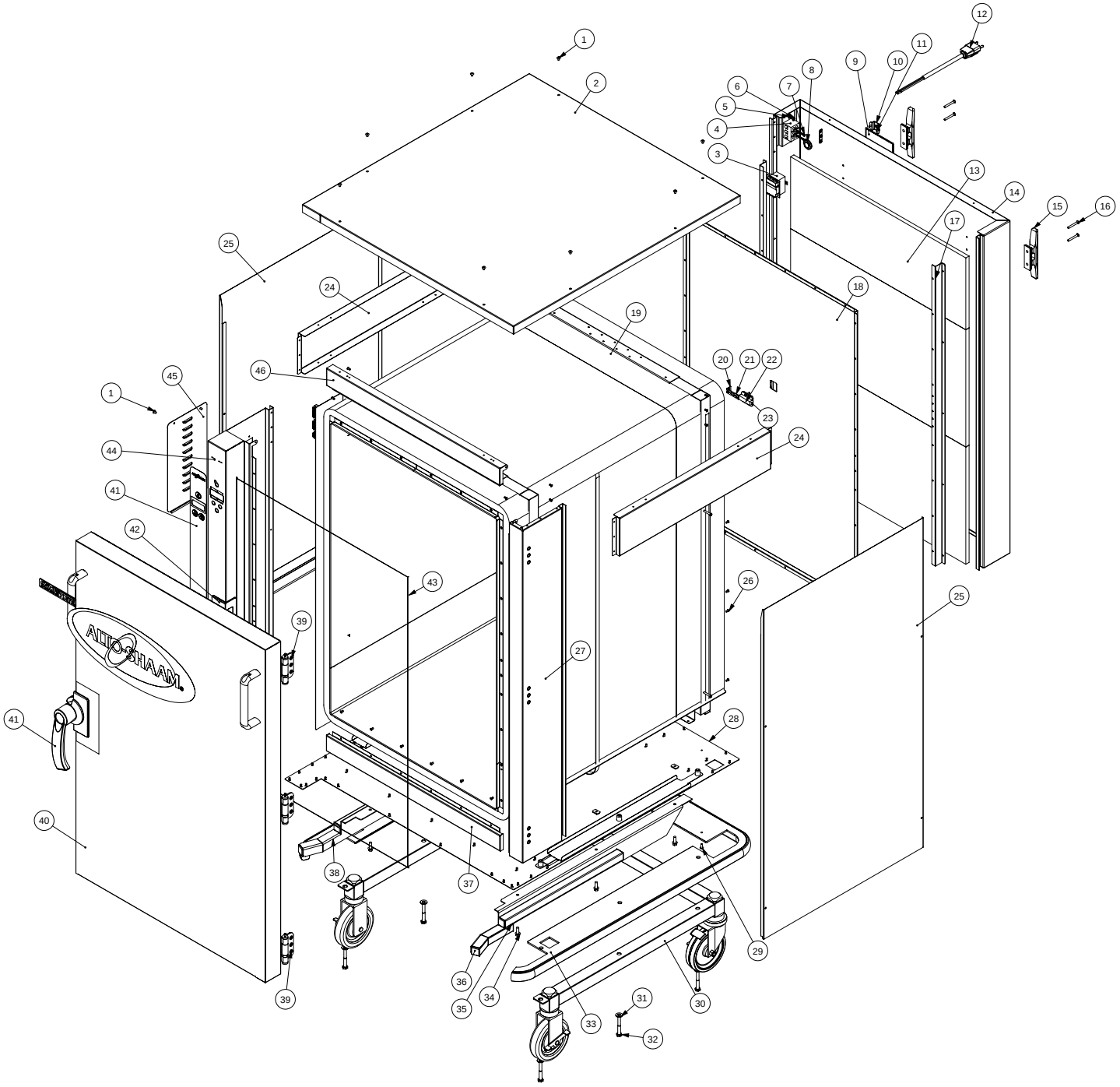
Code	Description	Possible Cause
E-10	**Cavity air sensor shorted**	Cavity air sensor reading < 5°F. Verify sensor integrity. See sensor test instructions below.
E-11	**Cavity air sensor open**	Cavity air sensor reading > 517°F. Verify sensor integrity. See sensor test instructions below.
E-20	**Product probe is shorted** *Oven will cook in time only*	Product probe reading < 5°F. Verify sensor integrity. See sensor test instructions below.
E-21	**Product probe is open** *Oven will cook in time only*	Product Probe reading > 517°F. Verify sensor integrity. See sensor test instructions below.
E-30	**Under temperature**	Unit has not reached (set-point - 25°F) for more than 90 minutes.
E-31	**Over temperature**	Unit has been higher than 25°F above the maximum cavity set-point for more than 2 minutes. **Note:** Holding Cabinets with this error code are more than 145°F higher than the maximum set-point.
E-50	**Temp. measurement error**	Contact factory.
E-51	**Temp. measurement error**	Contact factory.
E-60	**Real time clock error**	Data set to factory default. Ensure that date and time are correct if applicable.
E-61	**Real time clock error**	Contact factory.
E-70	**Configuration connector error (DIP switch)**	Refer to wiring diagram for the particular model and ensure dip switches on the control match the settings called out on the WD. If the dip switch settings are correct according to the print replace the control.
E-78	**Voltage low**	Voltage below 90 VAC on a 125 VAC unit, or below 190 VAC on a 208-240 VAC unit. Correct voltage.
E-79	**Voltage high**	Voltage over 135 VAC on a 125 VAC unit, or over 250 VAC on a 208-240 VAC unit. Correct voltage.
E-80	**EEPROM Error**	Ensure that all temperatures and times are properly set. Contact factory if problem persists.
E-81	**EEPROM Error**	Contact factory.
E-82	**EEPROM Error**	Contact factory.
E-83	**EEPROM Error**	Contact factory.
E-85	**EEPROM Error**	All timers, if previously on, are now off. Possible bad EEPROM.
E-86	**EEPROM Error**	Stored HACCP memory corrupted. HACCP Address reset to 1. Possible bad EEPROM. Contact factory if problem persists.
E-87	**EEPROM Error**	Stored offsets corrupted. Offsets reset to 0. Control may need a recalibration. Possible bad EEPROM. Contact factory if problem persists.
E-88	**EEPROM Error**	All timer set-points are reset to 1 minute. Timers, if previously on, are now off. Possible bad EEPROM.
E-90	**Button stuck**	A button has been held down for >60 seconds. Adjust control. Error will reset when the problem has been resolved.
E-dS	**Datakey error**	Datakey digital signature incompatible. Cycle power, and install compatible Datakey if error persists.
E-dT	**Datakey error**	Datakey incompatible with control. Install compatible Datakey.
E-dU	**Datakey unplugged**	Install Datakey and cycle power to control to clear error.
Note: *If in doubt, always cycle the power to the control and contact factory if the problem persists.*		

To test probe and air sensor:

Test probe and air sensor by placing sensor in ice water bath and using an ohmmeter set on the ohm scale. The reading should be 100 ohms resistance. If it is more than 2 ohms higher or lower, sensor needs to be replaced.

SERVICE

12•20W, 12•20MW SERVICE VIEW



Part numbers and drawings are subject to change without notice.

SERVICE

12•20W, 12•20MW SERVICE PARTS LIST

ITEM	DESCRIPTION	PART NO.	QTY	ITEM	DESCRIPTION	PART NO.	QTY
1	SCREW, 8-32 x 1/4" PHIL	SC-2459	12	29	SCREW, 8-32 x 1/2" PHIL	SC-2425	3
2	OUTER TOP PANEL, RH	1005914	1	30	MOBILE BASE ASSEMBLY	5004777	1
	OUTER TOP PANEL, LH	1006476	1		CASTERS, SWIVEL W/ BRAKE	CS-24875	2
3	HI-LIMIT T-STAT, 300F	TT-33476	1		CASTERS, RIGID	CS-35290	2
4	T-BLOCK	BK-3019	1	31	WASHER, 5/16 FLAT	WS-23725	6
5	STAR LOCK WASHER	WS-2467	1	32	SCREW, 5/16-18 x 2-1/2" HEX HEAD	SC-22796	6
6	SCREW, 10-32 x 1/4" PAN HD GRND	SC-2190	1	33	BUMPER ASSEMBLY	5011063	1
7	SCREW, 6-32 x 1-1/4" ROUND HD	SC-2365	2	34	SCREW, 1/4-20 x 3/4" FLANGED HD	SC-25286	6
8	BUSHING, STRAIN RELIEF	BU-3964	1	35	TROLLEY TRACK ASSEMBLY, RH	5004973	1
9	RATING TAG LABEL	LA-26348	2	36	PLUG, 1" SQ TUBING	PG-22882	8
10	HI-LIMIT PROTECTION COVER	1003936	1	37	DOOR TRIM, BOTTOM	1005918	1
11	SCREW, PAN HEAD M4 X 7MM	SC-22271	2	38	TROLLEY TRACK ASSEMBLY, LH	5004974	1
12	CORD	CD-3588	1	39	SCREW, 10-32 X 1" FLAT HEAD PHIL	SC-2713	9
13	INSULATION	IN-2003	2	40	DOOR ASSEMBLY, RH	5007688	1
14	CASING, BACK SPOT, RH	5007683	1		DOOR ASSEMBLY, LH	5008420	1
	CASING, BACK SPOT, LH	5008418	1	41	DOOR HANDLE, RH	HD-26966	1
15	HANGER 6-1/2" ROPE CLEAT	E2097HR	2		DOOR HANDLE, LH	HD-26967	1
16	SCREW, 10-32x1-1/2, NF, PHIL	SC-2073	4	42	DOOR LATCH, RH	LT-26968	1
17	CASING MOUNT, BACK	1008579	2		DOOR LATCH, LH	LT-26969	1
18	INNER TUBE BACK PANEL	1008580	1	43	DOOR GASKET	GS-28378	1
19	ELEMENT KIT	4881	1	44	CONTROL	5004860	1
20	SENSOR GUARD	1493	1	45	ELECTRICAL ACCESS PANEL	1008928	1
21	SENSOR, 1-3/4" L	SN-33541	1	46	DOOR TRIM, TOP	1005917	1
22	SCREW, 6-32 x 1/2" PHIL FLAT HD	SC-2239	2	47*	POWER SUPPLY	BA-33554	1
23	SENSOR MOUNTING BLOCK	BK-24427	1	48*	BEEPER	BP-3567	1
24	INNER TOP SUPPORT PANEL	1005911	2	49*	PROBE COVER	1008807	1
25	SIDE PANEL SPOT ASSEMBLY	5007687	2	50*	CANOE CLIP	CL-22820	2
26	RIVET, BLIND, #44, S/S	RI-2100	134	51*	PLUG, 3/8" HOLE	PG-25574	1
27	CORNER POST SPOT, LH	5007685	1	52*	RELAY	RL-33558	1
	CORNER POST SPOT, RH	5008415	1	53*	SCREW, 8-32 x 1"	SC-2069	8
28	BOTTOM PANEL SPOT, RH	5004775	1				
	BOTTOM PANEL SPOT, LH	5005209	1				

*NOT SHOWN

CABLE HEATING KIT #4881
12•20MW AND 12•20W

DESCRIPTION	PART NO.	QTY
CABLE HEATING ELEMENT	CB-3045	210 FT
RING CONNECTOR	CR-3226	12
INSULATION CORNER	IN-3488	1 FT
SHOULDER BUSHING	BU-3105	12
CUP BUSHING	BU-3106	12
STUD	ST-2439	12
HEX NUT	NU-2215	24
INSULATING SLEEVE	SL-3063	12
ELECTRICAL TAPE	TA-3540	1 ROLL

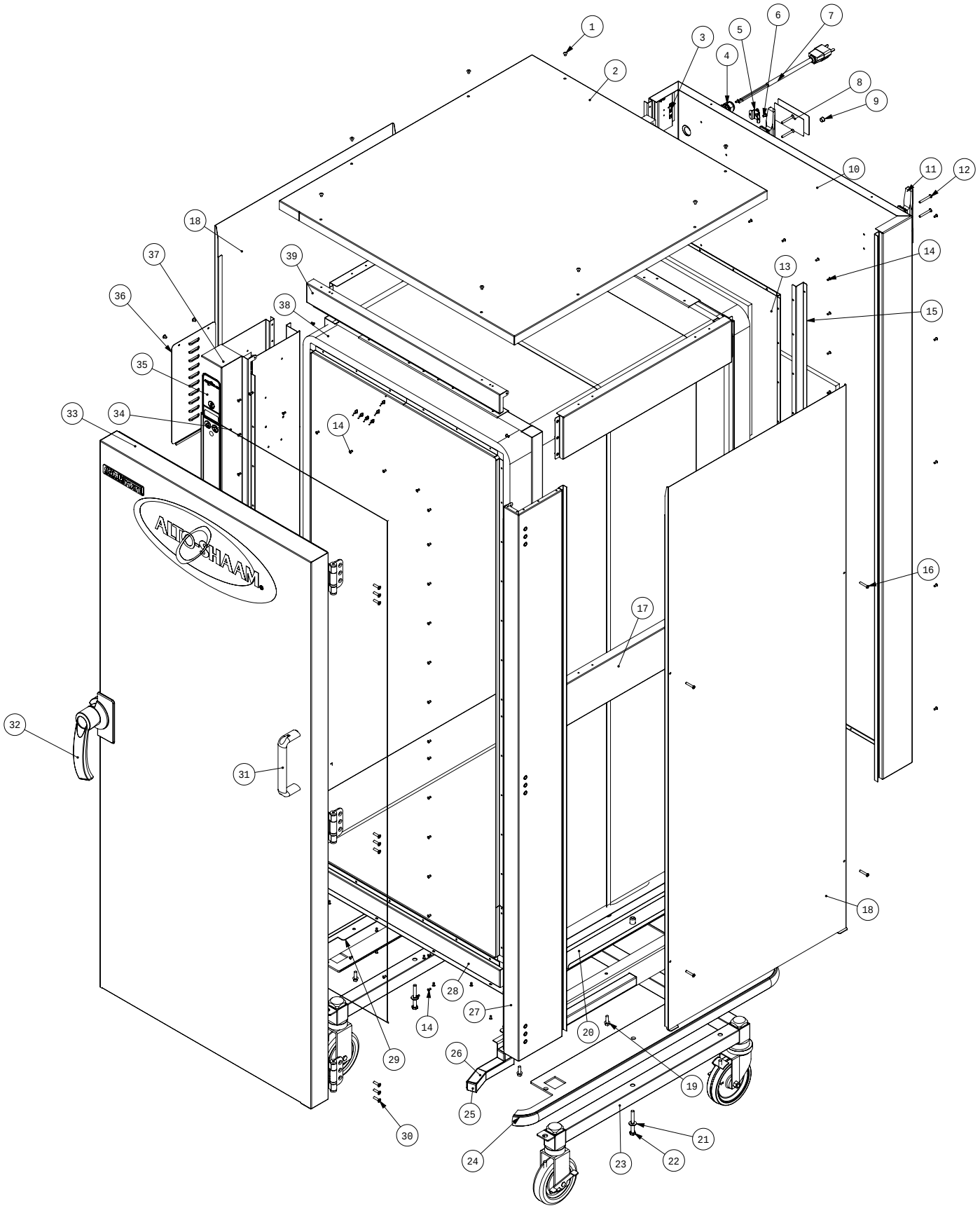
⚠ DANGER

DISCONNECT UNIT FROM POWER SOURCE BEFORE CLEANING OR SERVICING.

⚠ DANGER

LOCK-OUT OR POST BREAKER PANEL UNTIL SERVICE WORK HAS BEEN COMPLETED.

20•20W, 20•20MW SERVICE VIEW



Part numbers and drawings are subject to change without notice.

SERVICE

20•20W, 20•20MW SERVICE PARTS LIST

ITEM	DESCRIPTION	PART NO.	QTY	ITEM	DESCRIPTION	PART NO.	QTY
1	SCREW, 8-32 x 1/4" PHIL	SC-2459	12	29	TROLLEY TRACK ASSB, LH	5004974	1
2	OUTER TOP PANEL, RH	1005914	1	30	SCREW, 10-32 X 3/4", NF PHIL	SC-2072	9
	OUTER TOP PANEL, LH	1006476	1	31	HANDLE	HD-22257	1
3	NUT, HEX #8-32 2	NU-2296	2	32	DOOR HANDLE, RH	HD-26966	1
4	STRAIN RELIEF BUSHING	BU-3964	1		DOOR HANDLE, LH	HD-26967	1
5	HI-LIMIT PROTECTION COVER	1003936	1	33	DOOR ASSEMBLY, RH	5004774	1
6	SCREW, PAN HEAD M4 X 7MM	SC-22271	2		DOOR ASSEMBLY, LH	5005210	1
7	CORD	CD-3588	1	34	DOOR GASKET	GS-28255	1
8	RATING TAG LABEL	LA-26348	1	35	PANEL OVERLAY	PE-27139	1
9	PLUG 3/8" HOLE	PG-25574	1	36	ELECTRICAL ACCESS PANEL	1008928	1
10	CASING BACK SPOT, RH	5004813	1	37	CONTROL	5004860	1
	CASING BACK SPOT, LH	5005217	1	38	ELEMENT KIT	14228	1
11	HANGER 6-1/2" ROPE CLEAT	E2097HR	2			4878	1
12	SCREW, 10-32 X 1-1/2", NF, PHIL	SC-2073	4	39	DOOR TRIM, TOP	1005917	1
13	INNER TUBE BACK PANEL	1005552	1	39*	GUARD SENSOR	1493	1
14	RIVET, BLIND, #44, STNLS	RI-2100	162	*40	PROBE COVER	1008807	1
15	CASING MOUNT, BACK	1005923	2	*41	POWER SUPPLY	BA-33554	1
16	SCREW, 8-32 X 1", NC PHILLIPS PAN	SC-2069	8	*42	SENSOR MOUNTING BLOCK	BK-24427	1
17	INNER TOP SUPPORT PANEL	1005911	4	*43	T-BLOCK	BK-3019	1
18	SIDE PANEL SPOT	5004561	2	*44	BEEPER	BP-3567	1
19	SCREW, 1/4-20 X 3/4" FLANGED HD	SC-25286	6	*45	CANOE CLIP	CL-22820	2
20	BOTTOM PANEL SPOT, RH	5004775	1	*46	INSULATION, FIBERGLASS	IN-2003	1
	BOTTOM PANEL SPOT, LH	5005209	1	*47	DOOR LATCH, RH	LT-26968	1
21	WASHER, 5/16" FLAT	WS-23725	6	*48	DOOR LATCH, LH	LT-26969	1
22	SCREW, 5/16-18 X 2-1/2" HEX HEAD	SC-22796	6	*49	RELAY	RL-33558	1
23	MOBILE BASE ASSEMBLY	5004777	1	*50	SCREW, 1/4-20 X 3/4" U-HANDLE	SC-22339	2
24	BUMPER ASSEMBLY	5011063	1	*51	SCREW, 6-32 x 1/2" PHIL FLAT HEAD	SC-2239	2
25	PLUG, 1" SQ TUBING	PG-22882	8	*52	SCREW, 6-32 X 1-1/4" ROUND HD	SC-2365	2
26	TROLLEY TRACK ASSEMBLY, RH	5004973	1	*53	SCREW, 8-32 X 1/2" PHIL	SC-2425	3
27	CORNER POST WELD ASSEMBLY, RH	5004807	1	*54	SENSOR	SN-33541	1
	CORNER POST WELD ASSEMBLY, LH	5005214	1	*55	T-STAT, HI-LIMIT	TT-33476	1
28	DOOR TRIM, BOTTOM	1005918	1	*56	WASHER, #8 EXT LOCK	WS-2333	2

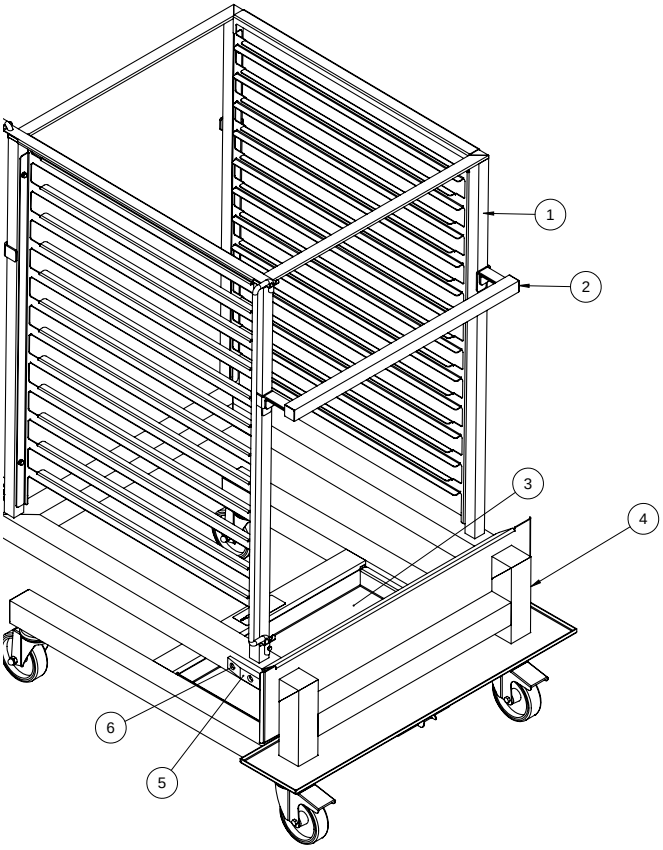
*NOT SHOWN

CABLE HEATING KIT #14228
20•20MW/20•20W - 1 KIT NEEDED

DESCRIPTION	PART NO.	QTY
CABLE HEATING ELEMENT	CB-3045	280 FT
RING CONNECTOR	CR-3226	16
INSULATION CORNER	IN-3488	1 FT
SHOULDER BUSHING	BU-3105	16
CUP BUSHING	BU-3106	16
STUD	ST-2439	16
HEX NUT	NU-2215	32
INSULATING SLEEVE	SL-3063	16
ELECTRICAL TAPE	TA-3540	1 ROLL

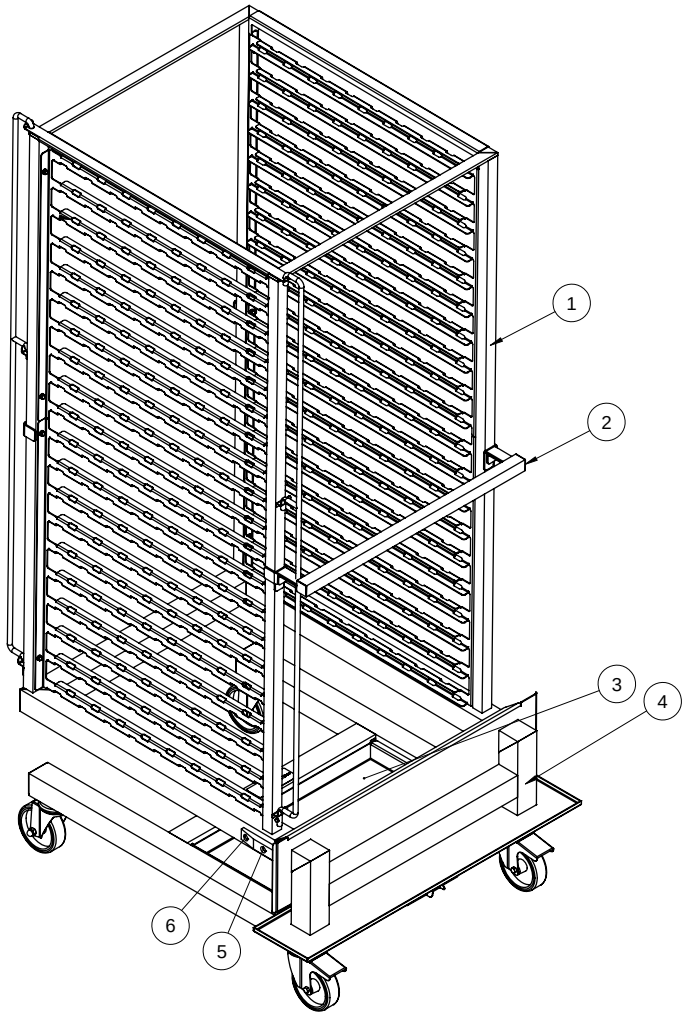
CABLE HEATING KIT #4878
20•20MW/20•20W - 1 KIT NEEDED

DESCRIPTION	PART NO.	QTY
CABLE HEATING ELEMENT	CB-3045	90 FT
RING CONNECTOR	CR-3226	4
INSULATION CORNER	IN-3488	8 FT
SHOULDER BUSHING	BU-3105	4
CUP BUSHING	BU-3106	4
STUD	ST-2439	4
HEX NUT	NU-2215	8
INSULATING SLEEVE	SL-3063	4
ELECTRICAL TAPE	TA-3540	1 ROLL



12•20MW PAN CART

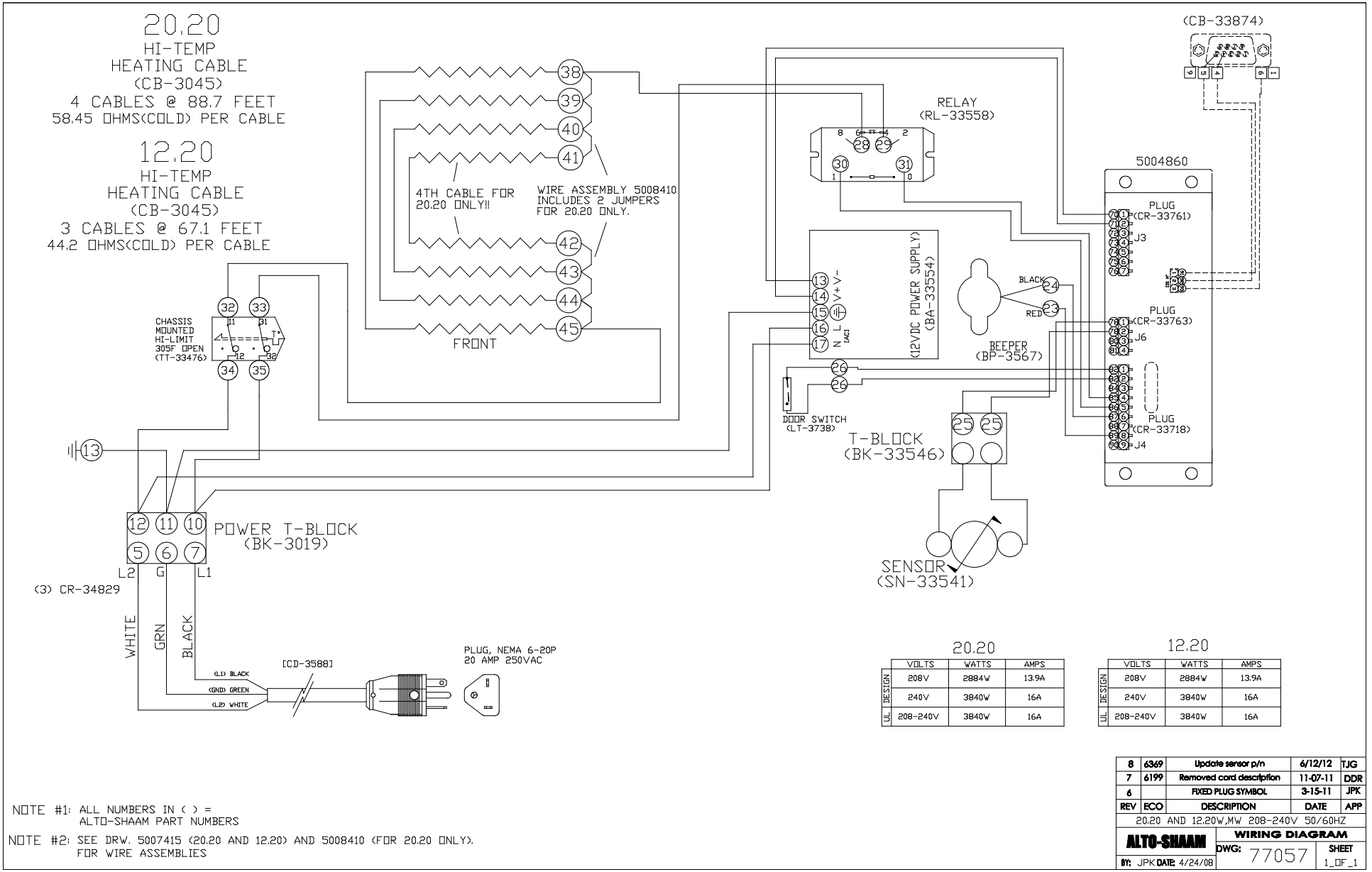
	DESCRIPTION	PART NO.	QTY
1	Trolley Rack Assembly	5007289	2
2	Trolley Handle Assembly	5006099	1
3	Drip Pan	PN-29133	1
4	Trolley Base	5006095	1
5	Teflon Block	BK-22100	2
6	Block Screw	SC-2072	4



20•20MW PAN CART

	DESCRIPTION	PART NO.	QTY
1	Trolley Rack Assembly	5006097	2
2	Trolley Handle Assembly	5006099	1
3	Drip Pan	1007306	1
4	Trolley Base	5006095	1
5	Teflon Block	BK-22100	2
6	Block Screw	SC-2072	4

Part numbers and drawings are subject to change without notice.



20.20

	VOLTS	WATTS	AMPS
DESIGN	208V	2884W	13.9A
	240V	3840W	16A
UL	208-240V	3840W	16A

12.20

	VOLTS	WATTS	AMPS
DESIGN	208V	2884W	13.9A
	240V	3840W	16A
UL	208-240V	3840W	16A

NOTE #1: ALL NUMBERS IN ( ) = ALTO-SHAAM PART NUMBERS

NOTE #2: SEE DRW. 5007415 (20.20 AND 12.20) AND 5008410 (FOR 20.20 ONLY). FOR WIRE ASSEMBLIES

REV	ECO	DESCRIPTION	DATE	APP
8	6369	Update sensor p/n	6/12/12	TJG
7	6199	Removed cord description	11-07-11	DDR
6		FIXED PLUG SYMBOL	3-15-11	JPK

20.20 AND 12.20W,MW 208-240V 50/60HZ

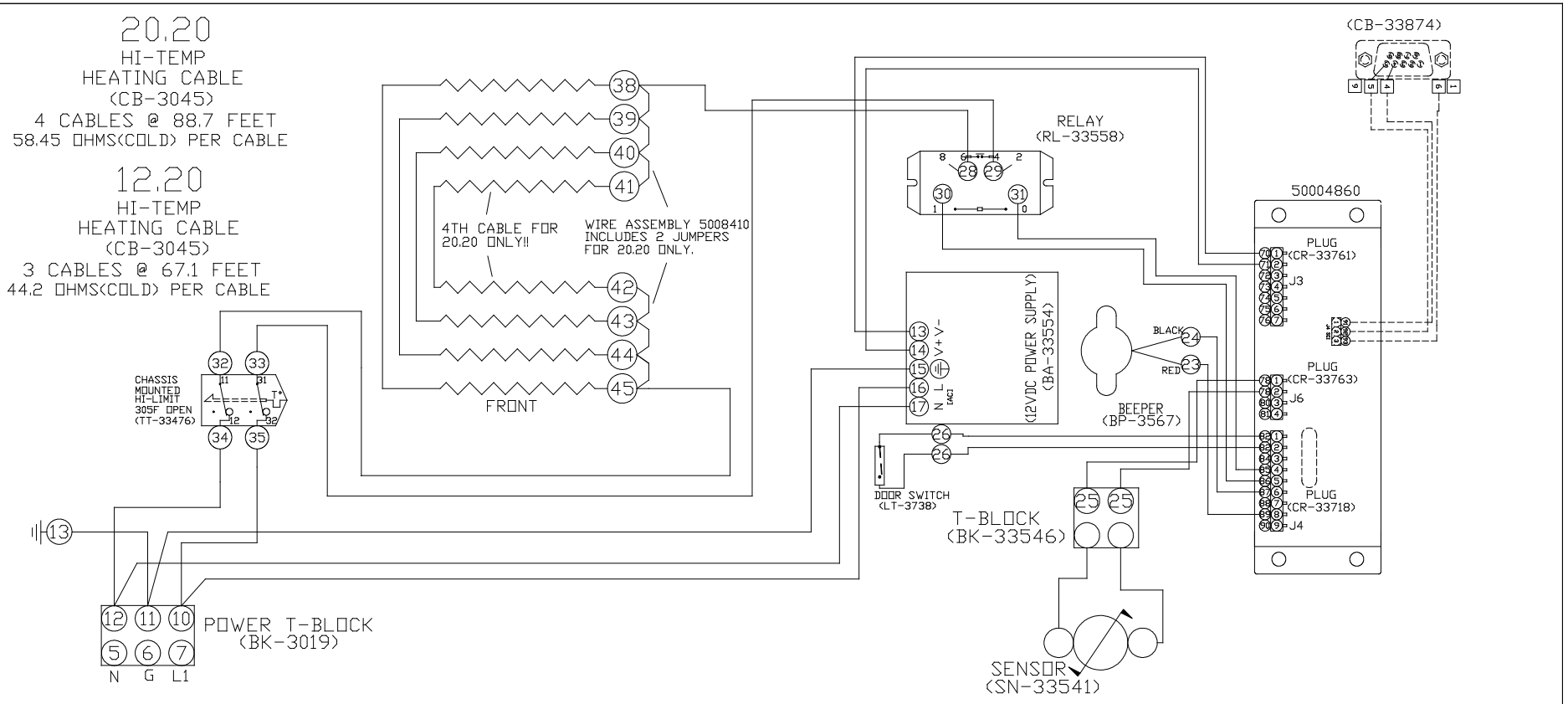
ALTO-SHAAM

WIRING DIAGRAM

BY: JPK DATE: 4/24/08

DWG: 77057

SHEET 1_OF_1



20.20

	VOLTS	WATTS	AMPS
DESIGN	230V	3527W	15.3A
CE	230V	3530W	15.3A

12.20

	VOLTS	WATTS	AMPS
DESIGN	230V	3527W	15.3A
CE	230V	3530W	15.3A

NOTE #1: ALL NUMBERS IN ( ) = ALTO-SHAAM PART NUMBERS

NOTE #2: SEE DRW. 5008153 (20.20 AND 12.20) AND 5008410 (FOR 20.20 ONLY). FOR WIRE ASSEMBLIES

REV	ECO	DESCRIPTION	DATE	APP
5	6369	Change sensor p/n	06\12\12	TJG
4	-	LOWER POWER TO 3530W@230V	1-10-11	JPK
3	5586	RELEASE TO PRODUCTION	12-22-09	MLP

20.20 AND 12.20W,MW 230V 50/60HZ

ALTO-SHAAM — WIRING DIAGRAM

BY: JPK DATE: 4/24/08 — DWG: 77160 — SHEET 1_OF_1

TRANSPORTATION DAMAGE and CLAIMS

All Alto-Shaam equipment is sold F.O.B. shipping point, and when accepted by the carrier, such shipments become the property of the consignee.

Should damage occur in shipment, it is a matter between the carrier and the consignee. In such cases, the carrier is assumed to be responsible for the safe delivery of the merchandise, unless negligence can be established on the part of the shipper.

1. Make an immediate inspection while the equipment is still in the truck or immediately after it is moved to the receiving area. Do not wait until after the material is moved to a storage area.
2. Do not sign a delivery receipt or a freight bill until you have made a proper count and inspection of all merchandise received.
3. Note all damage to packages directly on the carrier's delivery receipt.
4. Make certain the driver signs this receipt. If he refuses to sign, make a notation of this refusal on the receipt.
5. If the driver refuses to allow inspection, write the following on the delivery receipt:
   Driver refuses to allow inspection of containers for visible damage.
6. Telephone the carrier's office immediately upon finding damage, and request an inspection. Mail a written confirmation of the time, date, and the person called.
7. Save any packages and packing material for further inspection by the carrier.
8. Promptly file a written claim with the carrier and attach copies of all supporting paperwork.

We will continue our policy of assisting our customers in collecting claims which have been properly filed and actively pursued. We cannot, however, file any damage claims for you, assume the responsibility of any claims, or accept deductions in payment for such claims.

LIMITED WARRANTY

Alto-Shaam, Inc. warrants to the original purchaser only that any original part that is found to be defective in material or workmanship will, at Alto-Shaam's option, subject to provisions hereinafter stated, be replaced with a new or rebuilt part.

The parts warranty period is as follows:

For the refrigeration compressor on Alto-Shaam Quickchillers™, five (5) years from the date of installation.

For the heating element on Halo Heat® cooking and holding ovens, as long as the original purchaser owns the oven. This excludes holding only equipment.

For all other parts, one (1) year from the date of installation or fifteen (15) months from the shipping date, whichever occurs first.

The labor warranty period is one (1) year from the date of installation or fifteen (15) months from the shipping date, whichever occurs first.

Alto-Shaam will bear normal labor charges performed during standard business hours, excluding overtime, holiday rates or any additional fees.

To be valid, a warranty claim must be asserted during the applicable warranty period. This warranty is not transferable.

THIS WARRANTY DOES NOT APPLY TO:

1. Calibration.
2. Replacement of light bulbs, door gaskets, and/or the replacement of glass due to damage of any kind.
3. Equipment damage caused by accident, shipping, improper installation or alteration.
4. Equipment used under conditions of abuse, misuse, carelessness or abnormal conditions, including but not limited to, equipment subjected to harsh or inappropriate chemicals, including but not limited to, compounds containing chloride or quaternary salts, poor water quality, or equipment with missing or altered serial numbers.
5. Damage incurred as a direct result of poor water quality, inadequate maintenance of steam generators and/or surfaces affected by water quality. Water quality and required maintenance of steam generating equipment is the responsibility of the owner/operator.
6. Damage caused by use of any cleaning agent other than Alto-Shaam's Combitherm® Cleaner, including but not limited to damage due to chlorine or other harmful chemicals. **Use of Alto-Shaam's Combitherm® Cleaner on Combitherm® ovens is highly recommended.**
7. Any losses or damage resulting from malfunction, including loss of product, food product, revenue, or consequential or incidental damages of any kind.
8. Equipment modified in any manner from original model, substitution of parts other than factory authorized parts, removal of any parts including legs, or addition of any parts.

This warranty is exclusive and is in lieu of all other warranties, express or implied, including the implied warranties of merchantability and fitness for a particular purpose. In no event shall Alto-Shaam be liable for loss of use, loss of revenue or profit, or loss of product, or for any indirect, special, incidental, or consequential damages. No person except an officer of Alto-Shaam, Inc. is authorized to modify this warranty or to incur on behalf of Alto-Shaam any other obligation or liability in connection with Alto-Shaam equipment.

ALTO-SHAAM®

Effective November 1, 2011

RECORD THE MODEL AND SERIAL NUMBER OF THE APPLIANCE FOR EASY REFERENCE.
ALWAYS REFER TO BOTH MODEL AND SERIAL NUMBER IN ANY CONTACT WITH ALTO-SHAAM REGARDING THIS APPLIANCE.

Model: _____ Date Installed: _____
Voltage: _____ Purchased From: _____
Serial Number: _____

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